1998-99

Forage Yields
from

Rye,
Oat,
Wheat,
and
Triticale

Varieties and Strains

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DISCUSSION

Small-grain forage variety trials were conducted at the Noble Foundation Headquarters Farm near Ardmore and the Red River Demonstration and Research Farm near Burneyville (Tables 1 and 2). September planting was delayed because of dry soil at both locations. The 1998 summer was one of the harshest and most brutal on record for this part of the country; in fact, the heat and drought delayed proper soil tillage, fertilizer application, and seedbed preparation until after the normal planting dates in early September. At Burneyville, adequate rainfall in mid-September allowed for a late September planting (Table 2). However, at Ardmore the drought continued longer and delayed planting until mid-October (Table 1). It seemed there would be little opportunity for fall forage production from these late plantings; however, once stands were established, mild temperatures and good moisture conditions prevailed and good to excellent late fall and winter forage was produced at both locations. The growing season had above-normal temperatures through the late fall and winter months and ample rainfall, except in February. The lowest temperatures were during late December and early January when freeze damage occurred on the oat varieties at Ardmore.

In 1998-99, forage was clipped with a new sickle mower (Hege Forage Plot harvester). It had mechanical problems during the first clippings at both locations, which resulted in delayed and uneven harvest dates of the ryes. Inclement weather prevented timely harvests during March and April. The late spring clippings at both locations were delayed and, as a result, most varieties had initiated heading prior to clipping. Therefore, the forage yields for the late spring dates are probably more indicative of hay yields than grazing forage. An additional harvest at each location certainly would have illustrated a better distribution of spring forage production within each of the crops and varieties.

For forage yields during the growing season at **Ardmore**, the oats were harvested four times; the wheats and triticales, three; the ryes, twice (Table 1). The December 7 clipping of ryes was abandoned because of the mechanical failures of the harvester. The ryes were allowed to grow until the second harvest date on February 17. Despite the slow start, total forage yields averaged an exceptional 7,455 pounds/acre for the test. Overall forage production was early, since 33% had been harvested by February 17. A relative comparison of fall forage production of the ryes with that of the other small grains should not be made. However, the totals through February 17 present a reasonable comparison of fall/winter forage yields for all crops and varieties. Generally the ryes produced the most fall/winter forage and oats made the most spring forage. Despite stand loss resulting from freeze damage in late December and early January, the oats recovered well in the spring and produced respectable forage yields. The Dallas, La. 604, and Ozark oat varieties had the least winterkill and Chapman suffered the most, which was reflected in the final yields. The soft wheats as a group were again more productive than the hard wheats. The Presto triticale varieties produced an abundance of spring forage. The low coefficient of variation (C. V.) for total yields (8.9%) indicates that the data give a reliable comparison of the small-grain varieties at this site.

At **Burneyville**, forage was harvested five times during the growing season (Table 2). The average total yield of 6,730 pounds/acre was 33% higher than that of the previous year. Despite the delay in stand establishment, fall/winter production was early, since 34% of all forage was produced by January 26. On the first clipping, November 2, harvest was completed on only five rye varieties (Table 2) before the harvester malfunctioned. A completed harvest of the remaining fifteen rye varieties was delayed by six days, but all data are reported under the

November 2 clipping column. Therefore, one should not compare harvest data from these ryes with that of the other small grains on this date. The totals through January 26 are a truer comparison of forage production earliness for all varieties and crops at this location. With mild temperatures and adequate rainfall, the oats were more productive throughout much of the growing season. The superiority of oats this season is more evident because the difference in forage yield among the top seven oat varieties and the majority of wheats and triticales was more than the least significant difference (L. S. D.), which was 1,575 pounds/acre.

Tables 3 and 4 summarize the total forage yields of commercially available small-grain varieties that have been tested the last three seasons at Ardmore and Burneyville, respectively. Our focus is to evaluate the forage production of crops and varieties that are available for use in south central Oklahoma and north Texas. When studying the data, producers should emphasize the consistency and dependability of a variety, crop performance, or both over multiple rather than individual years. At **Ardmore** (Table 3), note that the oats have the highest three-year average and have been the most consistent from year to year. However, one should use these data with caution; the last three seasons were during mild winters, which favor oat production. In 1995-96 winterkill severely reduced oat yields. At **Burneyville** (Table 4) oat production was best in 1998-99. However, one should note that forage production has been more favorable for ryes at this deep sandy loam site over the three-year period. Overall, wheat forage yields have been lowest and fluctuated the most.

Within each crop, variety performance fluctuates from year to year at each location. It would be ideal to have a variety that is consistently near the top every year at every location, but finding one is difficult. ‘Bates’ rye has performed well at Ardmore but not at Burneyville. Conversely, ‘Maton’ has performed well at Burneyville but only moderately at Ardmore. ‘Oklon’ rye has shown the most stability at both locations. Harrison and Ozark oat varieties have been more stable over the three-year period at both locations. As a group, the Coker soft wheat varieties have consistently outyielded most hard wheat varieties. ‘Jagger’, an excellent grain producer with early forage potential, has been the most dependable of the hard wheats tested. ‘Presto’ triticale consistently produces good spring forage but generally does not produce much early fall forage.

Table 1. Small-grain forage performance, 1998-99; Headquarters Farm, Ardmore, OK

Variety or strain[1]	Clipping dates 12/17	2/17	Total through 2/17	4/7	5/24	1998-99 total	% Elbon	% forage produced by 2/17
	Pounds of oven-dry forage per acre							
Presto triticale	150	2531	2681	6656	0	9337	138	29
NF 65 rye	-	3586	3586	5553	0	9139	135	39
Ex-R-98-3 rye	-	4213	4213	4855	0	9068	134	47
Bates (RS1) rye	-	3946	3946	4697	0	8643	127	46
TRT-2000 (rye-triticale blend)	268	2190	2458	5989	0	8447	124	29
Coker 9134 wheat (soft)	839	1918	2758	5639	0	8397	124	33
NF 1 rye	-	3598	3598	4771	0	8369	123	43
NF 134 wheat	733	2295	3028	5257	0	8285	122	37
Ex-R-98-1 rye	-	4068	4068	4199	0	8267	122	49
Coker 9543 wheat (soft)	357	1803	2160	6008	0	8168	120	26
Danko Presto triticale	28	1959	1987	6169	0	8156	120	24
Bates rye	-	3616	3616	4515	0	8131	120	45
Harrison oat	1554	274	1828	2466	3799	8093	119	23
NF 188 oat	1776	104	1880	2820	3393	8093	119	23
NF 28 rye	-	4153	4153	3918	0	8071	119	52
Wrens Abruzzi rye	-	4366	4366	3678	0	8044	119	54
NF 56 rye	-	3743	3743	4251	0	7994	118	47
NF 4 wheat	795	1922	2717	5246	0	7963	117	34
Ex-R-98-2 rye	-	2939	2939	5024	0	7963	117	37
Barr Blend	-	2506	2506	5411	0	7917	117	32
NF 35 wheat	856	2569	3425	4490	0	7915	117	43
RSI 9054 triticale	359	1430	1789	6119	0	7908	117	23
NF 39 rye	-	3715	3715	4161	0	7876	116	47
Coker 9663 wheat (soft)	639	2978	3617	4188	0	7805	115	46
Coker 9803 wheat (soft)	571	2073	2644	5147	0	7791	115	34
NF 76 rye	-	4117	4117	3666	0	7783	115	53
Dallas oat	496	1112	1608	3818	2217	7643	113	21
Ozark oat	945	1272	2217	3711	1662	7590	112	29
T113G wheat	230	1225	1455	6120	0	7575	112	19
Tonkawa wheat	498	1073	1571	5938	0	7509	111	21
NF 165 wheat	711	1933	2644	4851	0	7495	110	35
Wintermore rye	-	1777	1777	5718	0	7495	110	24
Custer wheat	465	1363	1828	5666	0	7494	110	24
Wrens 96 rye	-	3243	3243	4204	0	7447	110	44
Oklon rye	-	3802	3802	3642	0	7444	110	51
FL920HR31314 oat	1307	288	1595	2676	3112	7383	109	22
Lockett wheat	170	1511	1681	5700	0	7381	109	23
Jagger wheat	518	2230	2748	4632	0	7380	109	37
Coronado wheat	442	1727	2169	5180	0	7349	108	30
Wintermore 96 rye	-	2492	2492	4814	0	7306	108	34
La. 604 oat	686	598	1284	3667	2348	7299	108	18
NF 87 triticale	716	2495	3211	4060	0	7271	107	44
Longhorn wheat	475	1855	2330	4887	0	7217	106	32
Florida 302 wheat (soft)	539	2337	2876	4329	0	7205	106	40
Wintermore 95 rye	-	2378	2378	4804	0	7182	106	33
NF 56 triticale	740	2161	2901	4274	0	7175	106	40
Tam 202 wheat	272	1518	1790	5381	0	7171	106	25
Tam 301 wheat	272	1460	1732	5436	0	7168	106	24
2137 wheat	330	940	1270	5887	0	7157	105	18
Trical Stan I triticale	204	1536	1740	5385	0	7125	105	24
833 oat	785	738	1523	3136	2424	7083	104	22
Maton rye	-	1877	1877	5169	0	7046	104	27
Trical 300 triticale	91	1161	1252	5703	0	6955	103	18
2180 wheat	558	1990	2548	4325	0	6873	101	37

2174 wheat	406	1222	1628	5239	0	6867	101	24
NF 15 triticale	751	2148	2899	3965	0	6864	101	42
Elbon rye	-	1937	1937	4851	0	6788	100	29
NF 59 triticale	915	1703	2618	4126	0	6744	99	39
RS1 9027 triticale	976	1290	2266	4457	0	6723	99	34
Tomahawk wheat	275	1154	1429	5222	0	6651	98	22
Chapman oat	2287	183	2470	1685	2130	6285	93	39
2163 wheat	402	1037	1439	4644	0	6083	90	24
Trit I triticale	0	329	329	5676	0	6005	89	6
Tam 302 wheat	182	645	826	4947	0	5773	85	14
				Average				
	415	**2068**	**2483**	**4732**	**329**	**7544**	**111**	**33**
				L. S. D. (.05)				
	313	**799**	**883**	**839**	**294**	**1082**		
				C. V. (%)				
	46.7	**23.9**	**22.0**	**11.0**	**55.3**	**8.9**		

[1]NF numbers are Noble Foundation experimental strains. Ex-R-98-1, Ex-R-98-2, and Ex-R-98-3 are experimental blends developed by Seed Resources, Inc. RS1 9027 and RS1 9054 are experimental blends developed by Resource Seeds, Inc. Seed of this experimental material are not commercially available.

Planting date: October 12, 1998.
Seeding rate: 2,000,000 live seed/acre, which approximates 90-120 lb./acre, depending on variety.
Seeding method: Drilled in seven-inch rows at a one-inch planting depth.
Replications: Three (3).
Soil type: Wilson silt loam.
Previous crop: Small grains.
Management: Disked, soil conditioned and roller-harrowed.
Weed control: Preemergence: 0.56 oz Amber/acre on October 12, 1998.
Fertilization: Preplant: 34 lb. N, 34 lb. P_2O_5, 34 lb. K_2O/acre and 2 tons dolomitic lime/acre on August 26, 1998.
Topdress: 75 lb. N/acre on October 30, 1998; 75 lb. N on February 18, 1999.

Table 2. Small-grain forage performance, 1998-99; Red River Demonstration and Research Farm, Burneyville, OK

Variety or strain[1]	Clipping dates: 11/2[2]	1/26	Total through 1/26	2/24	3/24	4/29	1998-99 total	% Elbon	% forage produced by 1/26
	Pounds of oven-dry forage per acre								
La. 604 oat	761	1531	2292	904	1467	4691	9354	129	25
NF 188 oat	1009	1897	2906	1049	1058	3672	8685	120	34
Dallas oat	838	1685	2523	1032	1459	3446	8460	117	30
833 oat	861	1580	2441	925	1315	3756	8437	117	29
Ozark oat	839	1809	2648	1427	1342	2837	8254	114	32
FL920HR31314 oat	1382	1626	3008	913	1012	3264	8197	113	37
Harrison oat	835	1786	2621	1031	1227	3267	8146	113	32
Ex-R-98-2 rye	1563	1406	2969	1333	2271	1243	7816	108	38
NF 165 wheat	831	2057	2888	1585	1942	1394	7809	108	37
Wintermore 96 rye	1527	1220	2747	1615	2217	1159	7738	107	36
NF 1 rye	1456	1311	2767	1322	2087	1449	7625	105	36
Wintermore 95 rye	1219	1308	2527	1333	2386	1346	7592	105	33
Maton rye	952	1991	2943	1300	2413	928	7584	105	39
Chapman oat	1007	1106	2113	687	1388	3387	7575	105	28
Ex-R-98-1 rye	1307	1462	2769	1351	2167	1219	7506	104	37
NF 28 rye	1320	1718	3038	1261	1966	1210	7475	103	41
Coker 9134 wheat (soft)	873	1856	2729	1472	1455	1773	7429	103	37
Barr Blend rye	1650	1327	2977	1329	2189	908	7403	102	40
NF 39 rye	1273	1583	2856	1394	1939	1177	7366	102	39
Elbon rye	1159	1654	2813	1108	2311	1008	7240	100	39
Bates rye	1185	1471	2656	1229	1818	1496	7199	99	37
TRT-2000 (rye-triticale blend)	1200	1345	2545	1315	2073	1259	7192	99	35
Ex-R-98-3 rye	1357	1509	2866	1360	1977	983	7186	99	40
NF 65 rye	1537	1463	3000	1299	2033	775	7107	98	42
Wintermore rye	1468	1176	2644	1215	2264	959	7083	98	37
Bates (RS1) rye	1095	1445	2540	1223	2130	1088	6981	96	36
Wrens Abruzzi rye	1251	1332	2583	1584	1530	1274	6971	96	37
Wrens 96 rye	1486	1145	2631	1267	1682	1391	6971	96	38
Oklon rye	1311	1561	2872	1484	2051	421	6828	94	42
NF 4 wheat	1176	1818	2994	1557	1606	583	6740	93	44
Coker 9663 wheat (soft)	851	1734	2585	1678	831	1573	6667	92	39
Tam 202 wheat	530	910	1440	1484	2297	1396	6617	91	22
Coronado wheat	1057	905	1962	1520	2100	1010	6592	91	30
NF 15 triticale	998	1553	2551	1248	1168	1621	6588	91	39
NF 56 rye	1086	1473	2559	1206	1968	845	6578	91	39
2174 wheat	801	943	1744	1134	1972	1724	6574	91	27
2163 wheat	679	728	1407	1002	2426	1692	6527	90	22
Lockett wheat	952	1136	2088	1105	1961	1360	6514	90	32
NF 87 triticale	1053	1361	2414	1621	966	1433	6434	89	38
Jagger wheat	729	1389	2118	1819	1594	862	6393	88	33
NF 59 triticale	892	1324	2216	1289	1174	1703	6382	88	35
RSI 9054 triticale	725	1206	1931	950	1844	1554	6279	87	31
Longhorn wheat	690	1158	1848	1630	2077	649	6204	86	30
NF 76 rye	1149	1380	2529	1386	1800	478	6193	86	41
Trical 300 triticale	289	680	970	1187	2086	1877	6120	85	16
NF 134 wheat	811	1977	2788	1265	1349	706	6108	84	46
Presto triticale	618	1306	1924	1487	1786	891	6088	84	32
Coker 9543 wheat (soft)	683	1415	2098	1466	1817	707	6088	84	35
NF 56 triticale	900	1281	2181	1301	1284	1313	6079	84	36
Coker 9803 wheat (soft)	629	1488	2117	1467	1340	1055	5979	83	35
NF 35 wheat	896	1957	2853	1430	1204	442	5929	82	48
Tomahawk wheat	758	1020	1778	867	1932	1335	5902	82	30
Danko Presto triticale	363	1190	1553	1353	2047	890	5843	81	27
T113G wheat	445	677	1122	933	2644	1113	5812	80	19

Tonkawa wheat	762	1155	1917	946	2233	618	5714	79	34
Tam 301 wheat	802	553	1355	1316	2244	768	5683	79	24
Florida 302 wheat (soft)	998	933	1931	1345	1501	875	5652	78	34
RSI 9027 triticale	963	1292	2255	593	1096	1451	5395	75	42
2180 wheat	680	964	1644	1473	1944	274	5335	74	31
Trical Stan I triticale	355	1085	1440	995	1348	1510	5293	73	27
Custer wheat	699	716	1415	1040	2135	560	5150	71	28
2137 wheat	657	644	1301	646	1781	1239	4967	69	26
Tam 302 wheat	570	544	1114	543	1862	1201	4720	65	24
Trit I triticale	190	329	519	409	1576	1822	4326	60	12
					Average				
	953	**1322**	**2275**	**1235**	**1784**	**1436**	**6730**	**93**	**34**
					L. S. D. (.05)				
	292	**395**	**528**	**419**	**515**	**996**	**1595**		
					C. V. (%)				
	18.9	**18.5**	**14.3**	**21.0**	**17.9**	**42.9**	**14.7**		

[1]NF numbers are Noble Foundation experimental strains. Ex-R-98-1, Ex-R-98-2, and Ex-R-98-3 are experimental blends developed by Seed Resources, Inc. RSI 9027 and RSI 9054 are experimental blends developed by Resource Seeds, Inc. Seed of this experimental material are not commercially available.
[2]The five rye varieties harvested completely on November 2 are Bates, Bates (RS1), NF 39, NF 56, and NF 76.

Planting date: September 29, 1998.
Seeding rate: 2,000,000 live seed/acre, which approximates 90-120 lb./acre, depending on variety and species.
Seeding method: Drilled in seven-inch rows at a one-inch planting depth.
Replications: Three (3).
Soil type: Minco fine sandy loam.
Previous crop: Small grains.
Management: Disked and roller-harrowed.
Weed control: Preemergence: 0.56 oz Amber/acre on September 29, 1998.
Fertilization: Preplant: 2 tons dolomitic lime/acre on August 20, 1998.
Topdress: 100 lb. N/acre on October 21, 1998; 75 lb. N/acre on February 4, 1999.

Table 3. Forage performance summary of commercial small-grain varieties, 1996-1999; Ardmore, OK

Variety	Pounds of oven-dry forage per acre											
	1996-97		1997-98		1998-99		3-Year Avg. (1996-99)		2-Year Avg. (1997-99)	
Rye										
Bates	3862	(2)[1]	5435	(2)	8131	(1)	5809	(1)	6783	(1)
Barr Blend	3478	(3)	4424	(9)	7917	(3)	5273	(6)	6171	(6)
Elbon	3002	(9)	4397	(10)	6788	(10)	4729	(10)	5593	(10)
Maton	2972	(10)	5065	(3)	7046	(9)	5028	(8)	6056	(7)
Oklon	3926	(1)	4916	(6)	7444	(6)	5429	(3)	6180	(5)
Wintermore	3231	(5)	5105	(4)	7495	(4)	5277	(5)	6300	(4)
Wintermore 95	3234	(4)	4679	(7)	7182	(8)	5032	(7)	5931	(8)
Wintermore 96	3153	(6)	4479	(8)	7306	(7)	4979	(9)	5893	(9)
Wrens Abruzzi	3023	(8)	4970	(5)	8044	(2)	5346	(4)	6507	(3)
Wrens 96	3149	(7)	5768	(1)	7447	(5)	5455	(2)	6608	(2)
Average										
	3303		**4924**		**7480**		**5236**		**6202**	
Oat										
Chapman	4114	(4)	6871	(1)	6285	(6)	5757	(4)	6578	(6)
Harrison	4516	(2)	6824	(2)	8093	(1)	6478	(1)	7459	(1)
Ozark	4759	(1)	6417	(3)	7590	(3)	6255	(2)	7004	(2)
833	4513	(3)	6346	(5)	7083	(5)	5981	(3)	6715	(5)
Dallas	-		6341	(6)	7643	(2)	-		6992	(3)
La. 604	-		6389	(4)	7299	(4)			6844	(4)
Average										
	4476		**6531**		**7332**		**6118**		**6932**	
Wheat										
Coker 9134 (soft)	4112	(4)	6879	(1)	8397	(1)	6463	(1)	7638	(1)
Coker 9543 (soft)	4215	(2)	5967	(3)	8168	(2)	6117	(2)	7068	(3)
Coker 9803 (soft)	4111	(5)	5201	(11)	7791	(4)	5701	(4)	6496	(5)
Coronado	4137	(3)	5510	(6)	7349	(9)	5665	(5)	6430	(8)
Custer	3626	(10)	5504	(7)	7494	(6)	5541	(7)	6499	(4)
Tonkawa	3481	(12)	5300	(10)	7509	(5)	5430	(8)	6405	(9)
Florida 302 (soft)	4445	(1)	5769	(4)	7205	(11)	5806	(3)	6487	(6)
Jagger	3827	(6)	5575	(5)	7380	(8)	5594	(6)	6478	(7)
Longhorn	3648	(9)	4880	(14)	7217	(10)	5248	(10)	6049	(12)
Tomahawk	3509	(11)	5049	(13)	6651	(14)	5070	(11)	5850	(14)
2137	3681	(7)	5343	(9)	7157	(12)	5394	(9)	6250	(11)
2163	3673	(8)	4348	(15)	6083	(15)	4701	(12)	5216	(15)
Coker 9663 (soft)	-		6464	(2)	7805	(3)	-		7135	(2)
Lockett	-		5390	(8)	7381	(7)	-		6386	(10)
2174	-		5097	(12)	6867	(13)	-		5982	(13)
Average										
	3872		**5485**		**7364**		**5561**		**6425**	
Triticale										
Presto	3504	(2)	5674	(1)	9337	(1)	6172	(1)	7506	(1)
Trical Stan I	4062	(1)	5589	(2)	7125	(3)	5592	(2)	6357	(2)
TRT-2000 (rye-triticale blend)	-		4203	(3)	8447	(2)	-		6325	(3)
Average										
	3783		**5155**		**8303**		**5882**		**6729**	
Overall Average										
	3749		**5476**		**7475**		**5547**		**6476**	
L. S. D. (.05)										
	630		**1323**		**1195**					

[1]Number in parentheses is rank within column and crop.

Table 4. Forage performance summary of commercial small-grain varieties, 1996-1999; Burneyville, OK

Variety	Pounds of oven-dry forage per acre									
	1996-97		1997-98		1998-99		3-Year Avg. (1996-99)		2-Year Avg. (1997-99)	
Rye										
Bates	4835	(9)[1]	6506	(5)	7199	(6)	6180	(7)	6853	(5)
Barr Blend	5202	(3)	6207	(9)	7403	(4)	6271	(5)	6805	(8)
Elbon	4977	(7)	6102	(10)	7240	(5)	6106	(9)	6671	(10)
Maton	5101	(5)	6893	(1)	7584	(3)	6526	(1)	7239	(1)
Oklon	5328	(2)	6865	(2)	6828	(10)	6340	(4)	6847	(6)
Wintermore	4927	(8)	6273	(7)	7083	(7)	6094	(10)	6678	(9)
Wintermore 95	5566	(1)	6448	(6)	7592	(2)	6535	(2)	7020	(2)
Wintermore 96	5159	(4)	6249	(8)	7738	(1)	6382	(3)	6994	(3)
Wrens Abruzzi	5014	(6)	6669	(4)	6971	(8)	6218	(6)	6820	(7)
Wrens 96	4729	(10)	6768	(3)	6971	(9)	6156	(8)	6870	(4)
					Average					
	5084		**6498**		**7261**		**6281**		**6880**	
Oat										
Chapman	3408	(3)	4344	(6)	7575	(6)	5109	(4)	5960	(6)
Harrison	3484	(2)	4554	(5)	8146	(5)	5395	(3)	6350	(5)
Ozark	4088	(1)	5282	(1)	8254	(4)	5875	(1)	6768	(2)
833	3240	(4)	4998	(3)	8437	(3)	5558	(2)	6718	(4)
Dallas	-		4990	(4)	8460	(2)	-		6725	(3)
La. 604	-		5064	(2)	9354	(1)			7209	(1)
					Average					
	3555		**4872**		**8371**		**5484**		**6622**	
Wheat										
Coker 9134 (soft)	3880	(4)	3970	(6)	7429	(1)	5093	(1)	5700	(1)
Coker 9543 (soft)	3896	(3)	3721	(10)	6088	(9)	4568	(5)	4905	(10)
Coker 9803 (soft)	3915	(2)	3905	(7)	5979	(10)	4600	(4)	4942	(9)
Coronado	3729	(6)	3627	(12)	6592	(3)	4649	(3)	5110	(5)
Custer	3506	(9)	3905	(8)	5150	(14)	4187	(11)	4528	(14)
Tonkawa	3631	(7)	4020	(2)	5714	(12)	4455	(7)	4867	(11)
Florida 302 (soft)	3539	(8)	3597	(13)	5652	(13)	4263	(10)	4625	(13)
Jagger	4212	(1)	3554	(14)	6393	(7)	4720	(2)	4974	(8)
Longhorn	3070	(12)	3987	(5)	6204	(8)	4420	(8)	5096	(7)
Tomahawk	3380	(11)	3552	(15)	5902	(11)	4278	(9)	4727	(12)
2137	3747	(5)	3838	(9)	4967	(15)	4184	(12)	4403	(15)
2163	3426	(10)	3678	(11)	6527	(5)	4544	(6)	5103	(6)
Coker 9663 (soft)	-		4066	(1)	6667	(2)	-		5367	(2)
Lockett	-		4005	(3)	6514	(6)	-		5260	(4)
2174	-		3995	(4)	6574	(4)	-		5285	(3)
					Average					
	3661		**3828**		**6157**		**4497**		**4993**	
Triticale										
Presto	3842	(1)	4391	(2)	6088	(2)	4774	(1)	5240	(2)
Trical Stan I	3769	(2)	4100	(3)	5293	(3)	4387	(2)	4697	(3)
TRT-2000 (rye-triticale blend)	-		5585	(1)	7192	(1)	-		6389	(1)
					Average					
	3806		**4692**		**6191**		**4581**		**5442**	
					Overall Average					
	4164		**4874**		**6875**		**5281**		**5875**	
					L. S. D. (.05)					
	611		**1223**		**1663**					

[1]Number in parentheses is rank within column and crop.

1998-99 WEATHER FACTORS

RAINFALL (inches)

	Ardmore		Burneyville[1]	
Month	1998-99 Season	96-Year Average	1998-99 Season	5-Year Average
September	0.87	3.63	3.36	4.22
October	6.43	3.61	2.30	3.42
November	2.81	2.45	2.89	3.02
December	2.49	2.24	2.33	2.74
January	1.95	1.77	2.03	2.11
February	0.12	2.08	0.18	1.63
March	3.70	2.88	3.33	3.49
April	4.03	3.97	3.59	3.52
May	3.93	5.32	6.12	3.70
Total	**26.33**	**27.95**	**26.13**	**27.85**

[1] Fifth-year rainfall data taken from Oklahoma Mesonet Weather Station located on the Red River Demonstration and Research Farm.

MINIMUM TEMPERATURES (20°F or lower)

Ardmore		Burneyville	
Date	Temperature	Date	Temperature
Dec. 21	18	Dec. 21	19
Dec. 22	13	Dec. 22	15
Dec. 24	20	Dec. 24	19
Dec. 25	16	Dec. 25	14
Dec. 26	20	Dec. 26	18
Jan. 3	16	Jan. 3	13
Jan. 4	12	Jan. 4	10
Jan. 9	16	Jan. 9	17
		Jan. 10	17
		Jan. 14	20

Information in this report is not conclusive, but should be of great assistance when used with similar information from other sources.

All available information pertaining to the subject should be used in making conclusions and decisions. This publication is intended to furnish supplemental information to aid decision-making and idea formation.

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